IN THE SPECIFICATION:

(1) Kindly replace the paragraph beginning on page 10, line 4 with the following paragraph:

--The geometry of the nets C1, C2, C3 is described hierarchically and captured to a level of detail needed to determine an accurate solution. For example, in FIGURE 1, since the net C2 is located close to the net C1, the net C1 and the net C2 are captured with relatively detailed geometric descriptions. However, since the net C3 is located for enough away from the net C1, then the net C3 may be captured with relatively coarse geometric descriptions.--

(2) Kindly replace the paragraph beginning on page 4, line 2 with the following paragraph:

--To address the above-discussed deficiencies of the prior art, the present invention provides, for use in an integral equation formulation of capacitance, a system for, and method of, generating a representation of charge distribution for a given capacitive structure (which may be an integrated circuit). In one embodiment, the system includes: (1) a charge variation function generator that creates a multidimensional charge variation function wherein the charge variation function is independent of a conductive geometry of the structure and (2) a conductive geometry generator, associated with the charge variation generator, that creates a conductive geometry wherein the conductive geometry is independent of charge variation in the structure. Both the charge variation function and the conductive geometry are employable in the integral equation formulation to reduce a complexity thereof.--

(3) Kindly cancel the eight paragraphs that were previously inserted after the paragraph that ended on page 24, line 10.

(4) Kindly insert the following paragraphs after the paragraph that ends of page 25, line 17 of the original specification.

--Turning now to FIGURE 2B with continued reference to FIGURE 2A, illustrated is a flow diagram of an embodiment of a method of determining a charge distribution for a net, generally designated 250, constructed according to the principles of the present invention. The method starts in a step 255 with an intent to determine a charge distribution.

An initial charge distribution and geometry are provided in a step 260. The initial charge distribution and the initial geometry may be guesses and are used to start an iterative linear solution. The initial guess for the charge distribution may be designated g and the initial guess for the geometry may be a subdivision of the geometry of the net.

After an initial charge distribution and geometry are provided, a first charge variation function is then determined in a step 265. The first charge variation function, f_1, may be the difference between ψ_0 and ψ. In one embodiment, the first charge variation function may be determined by solving for ψ_0 and ψ using Equations 6 and 9.

After determining the first charge variation function, a determination is made if the charge distribution function is within an acceptable limit in a first decisional step 270. In one embodiment, the acceptance of the charge distribution function may be within an acceptable limit if the ratio γ/β is sufficiently small. If the charge distribution function is within an acceptable limit, the method 250 ends in a step 295.

If the charge distribution function is not within an acceptable limit, a charge variation function is created to refine a description of the charge distribution function in a step 280. In one embodiment, f_1 may be normalized before proceeding with the linear iterative method. The method 250 creates a charge variation function which refines the description of the charge distribution function employing Equations 10-17.

After refining the description of the charge distribution function, a determination is made if the charge distribution function is within an acceptable limit in a step 282. In one embodiment, the charge distribution function is within an acceptable limit based on the ratio r/β. If the ratio is within acceptable limits, the charge distribution has converged and the method 250 continues to step 295 and ends.

If the charge distribution function is not within acceptable limits, a determination is made if the geometry needs refinement in a third decisional step 287. In one embodiment, the method 250 may employ Equations 18 and 19 to determine if the geometry needs refinement. If the geometry does not need refinement, the method continues to step 280. If the geometry does need refinement, the geometry is subdivided into subdivisions in a step 290. After subdividing the geometry, the method 250 continues to the step 280.

While the methods disclosed herein have been described and shown with reference to particular steps performed in a particular order, it will be understood that these steps may be combined, subdivided or reordered to form an equivalent method without departing from the teachings of the present invention. Accordingly, unless specifically indicated herein, the order and/or the grouping of the steps are not limitations of the present invention.--